

REMARKS

This preliminary amendment accompanies a Request for Continued Examination (RCE) and is responsive to the final Office action dated January 7, 2009.

Applicant asks that all claims be examined in view of the amendment to the claims.

Claims 11-15 are pending and are new. Previously-pending claims 2 and 7-10 have been canceled. Support for new claims 11-15 can be found throughout the specification and in the figures. No new matter has been added.

The Office action objected to claim 10. Since claim 10 has been canceled, this objection is moot.

Previously-pending claims 2 and 10 were rejected as obvious over U.S. Patent No. 1,893,210 (Rider) in view of U.S. Patent No. 2,518,116 (Bete). Since claims 2 and 10 have been canceled, these claim rejections are moot. Applicant submits that new claims 11-15 are allowable over the cited references for at least the following reasons.

Claim 11 recites a chip removal apparatus to remove residue such as chips that have remained in and adhered to an interior of a bag-shaped machined hole in a work piece. The chip removal apparatus includes: (a) a chip removal air blow nozzle with a spiral flow creating portion; (b) a tubular member, into which the chip removal air blow nozzle is inserted; and (c) a guide on a distal end of the tubular member with a penetration hole that a distal end of the chip removal air blow nozzle penetrates. The guide is arranged to contact a work piece and to surround a machined hole in the work piece while the distal end of the chip removal air blow nozzle is inserted into the bag-shaped machined hole.

An example of the foregoing claim features is illustrated in FIGS. 1, 2, 4 and 5 of the present application. In particular, these figures show a chip removal apparatus 2 that can remove residue such as chips from an interior of a machined hole 4 in a work piece 3. The apparatus 2 includes: (a) a chip removal air blow nozzle 1 with a spiral flow creating portion 60; (b) a tubular

member 43, into which the chip removal air blow nozzle 1 is inserted; and (c) a guide 50,53 on a distal end of the tubular member 43 with a penetration hole 41 through which a distal end of the chip removal air blow nozzle 1 penetrates. The guide 50, 53 is arranged to contact the work piece 3 and to surround the machined hole 4 while the distal end of the chip removal air blow nozzle 1 is inserted into the machined hole 4.

In some implementations, the foregoing claim features provide a chip removal apparatus that easily and reliably lifts chips and the like that are adhered to the interior of a machined hole in a spiral trajectory towards the top of the machined hole. This removal can be accomplished even with a slow air flow rate. Moreover, once removed, the chips enter the guide and the tubular member. This restricts their movement so that they do not scatter and make a mess. Containing the chips removed from a machined hole can be particularly useful if the work piece has several machined holes. In that situation, containing prevents the removed chips from contaminating other holes.

Neither the Rider patent, the Bete patent, nor any reasonable combination thereof discloses or renders obvious the claimed subject matter.

The Rider patent discloses a fluid distributing device with a fluid discharge nozzle 11 that has an upper end with a reduced diameter to form a discharge orifice 20. *See* page 2, lines 2-7. To impart rotational movement to the stream of fluid being delivered by the nozzle, a plurality of helical fins or threads 22 are formed inside the orifice 20. *See* page 2, lines 12-18. The fluid distributing device does not have a guide on a distal end of a tubular member with a penetration hole that a distal end of the fluid discharge nozzle 11 penetrates, where the guide is arranged to contact a work piece and surround a machined hole in the work piece while the distal end of the fluid discharge nozzle 11 is inserted into the machined hole, as recited in claim 11.

The Bete patent discloses a spiral film spray nozzle (*see* FIGS. 1 and 2) that may be used, for example, as a sprinkler in a fire protection system. *See* col. 2, lines 12-20. The Bete patent explains that spray type and character in the spiral film spray nozzle may be varied by varying the lead, pitch angle or shape of a helical vane or vanes 8, 9. *See* col. 1, lines 29-37. The spiral film spray nozzle does not have a guide on a distal end of a tubular member with a penetration

hole that a distal end of the fluid discharge nozzle 11 penetrates, as recited in claim 11. Nor does the fluid distributing device have a guide arranged to contact a work piece so as to surround a machined hole in the work piece while the distal end of the fluid discharge nozzle 11 is inserted into the machined hole, as recited in claim 11, as recited in claim 11.

Claim 11 should be allowable for at least the foregoing reasons.

Claims 12-15 depend from claim 11 and, therefore, should be allowable for at least the same reasons as claim 11.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

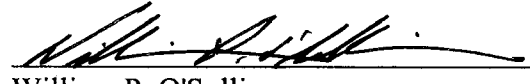
The RCE fee in the amount of \$810.00 is being paid concurrently herewith on the Electronic Filing System (EFS) by way of deposit account authorization. Please apply any charges or credits to deposit account 06-1050.

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Respectfully submitted,

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